

to divide the circular section of the tree into minute sectors, having pores in them, and which in the resinous woods are filled: also, in some woods, larger rays, usually silvery and light in their colour, and which, when the wood they are in is cut and placed in an oblique direction, present those changing flowers which appear in the finer sorts of oak: these rays are generally termed the *silver grain* of the wood, but are more distinctively denominated the lesser and larger transverse septa, or medullary rays.

6. Woods are variable in quality according to the nature of the climate and of the soil, as also in a considerable degree to the aspect in which they are situated. Trees grown slowly in open, dry, and exposed situations are more fine, and close in their annual rings, and more substantial and durable, than those which are grown in close and shady forests, or rapidly reared in sappy or moist places, the latter being broad and soft in their rings, and very subject to decay; and their pith is not always quite in the centre, for the layers are variable also from the situation of the principal roots, or the circumstance of the soil on one side being more favourable to growth than that on the other; or one side of the tree may be more dense from more hardy exposure; the rings may also depend individually for their thickness on the degree of vegetation which takes place in the particular years of their formation.

7. The age and season for felling are subjects which call for the deepest consideration, but do not always receive that attention which is due to their importance. Timber-growers, in their haste to supply the market, too often fell trees that have not arrived at maturity, the heart-wood being therefore imperfect, with much sap-wood, and of course little durability, and, unfortunately, they are the more readily led to do so on account of the increase in size being very slow after a certain age. Felling should not be too early, for the reasons above contained; neither should it be in the decline of the tree, when its elasticity and vigour are lost, and the wood has become brittle, tainted, and discoloured, with the pith gone and the heart in progress of decay. Maturity is the period when the sap-wood bears a small proportion, and the heart-wood has become uniform and compact. It must be obvious, however, that it is a worse fault to fell wood before it has acquired thorough firmness, than when it is just in the wane and its heart may exhibit but the first symptoms of decay; for in the former there is no perfectly-enduring timber to be got, while in the latter the greater part is in the zenith of its strength. This is in regard to the age of the tree, and now with respect to the season of the year it should be felled, we must take into some consideration the *barking*.

8. It happens unluckily that the best times for felling are the worst for separating the bark for tanning, and the consequence is, that the value of the latter in some kinds of trees is such as to lead to the cutting down of timber at very improper seasons. The best time for felling is midsummer, when the leaves are fully expanded, and the sap has ceased to flow, and the extraneous vegetable matter intended for the leaves has been dislodged from the trunk of the tree, by the common sap leaving it in a quiescent state, and free from that germinative principle which, from being more saccharine and fermentable than the proper juices which form the wood, is readily excited by heat and moisture, and if the timber were cut while it remained, would subject it to rapid decay and to the operations of worms. The period during which the vegetation is at rest generally extends from about midsummer, or the middle of June, to the middle of August, when the autumnal vegetation, or the operation of forming the nutritious matter for the foliage, &c. of the succeeding year, begins. In the winter months there is another cessation, and mid-winter is therefore also chosen as a time for felling, and receiving, indeed, a preference: but as the only peculiar recommendation which that time possesses is the facility which it affords for gradual seasoning, by which timber is rendered less liable to split and get distorted, and slow drying being generally available at any season, under shade or shelter, midsummer appears, for many obvious reasons, the most expedient.

9. During these periods of rest, so favourable for felling, the bark adheres closely to the wood, being neither separated from it by

the descending sap nor by the vegetable deposit which forms in the sap-wood; and, as has been already mentioned, those seasons during which the bark hangs loosely on the trunk are the least advantageous for cutting it down. Under this dilemma a mode is practised of stripping the bark from the standing tree early in spring when the sap is rising, and felling after that sap and the vegetable matter which it carries off along with it are expended in foliage, and the latter has died away. This practice has been found advantageous in every respect, as it at once insures obtaining the bark in a perfect state, and renders the sap-wood by exposure almost equal to the heart-wood in hardness and durability. When this method is not adopted, it is well either to pierce the trunk some time before felling, to drain out the sap, or, immediately on its being felled, to set it on end for that purpose.

10. The next consideration is the mode of rendering the timber fit for use, and the time which can be afforded for that purpose. There are natural and artificial means of seasoning, both of which have their recommendations; but the former has certainly the right of preference, as it gives greater toughness, elasticity, and durability, and therefore should always be employed in preparing timber for carpentry.

11. When there is time for drying it gradually, all that is necessary to be done, on removing it from the damp ground of the forest, is to place it in a dry yard, sheltered from the sun and wind, and where there is no vegetation; and set it on bearers of iron or brick in such manner as to admit a circulation of air all round and under it. In this situation it should continue two years if intended for carpentry, and double that time if for joinery; the loss of weight which should take place, to render it fit for the purposes of the former, being about one-fifth, and for the latter about one-third. If it is to be used round, it is good to bore out the core; as by so doing the drying is advanced, and splitting prevented, with almost no sacrifice of strength. If it is to be squared into logs, it should be done soon after some slow drying, and whole-squared, if large enough; as that removes much of the sap-wood, and facilitates the drying, and prevents the splitting, which is apt to take place when it is in the round form, in consequence of the sap-wood drying before the heart, from being less dense; also, if it may be quartered, it is well to treat it so after some time, as the seasoning is by that means rendered more equal. It is well also to turn it now and then, as the evaporation is greatest from the upper side.

12. To prevent timber warping, it should be well seasoned before it is cut into scantlings; and the scantlings should be cut some time before they are to be used, in order that the seasoning may be as perfect as possible; and if they can be set upright, so much the better, as then they will dry more rapidly; and as the upper dries sooner than the lower side, they ought, therefore, to be reversed at intervals.

13. When there is not time for gradual drying, the best method that can be adopted, especially for sappy timber, and if strength is not principally required, is immediately on felling to immerse it in running water; and, after allowing it to remain there about a fortnight, to set it in the wind to dry. This renders timber less apt to crack and warp in drying, and less subject to be worm-eaten, especially the more tender woods; but it must be altogether under water, as partial immersion is very destructive.

14. Of steeping generally, whether in cold or warm water, it must be observed, that it dissolves the substance of the wood, and necessarily renders it lighter: therefore, the less that is necessary of it, the better; indeed, it is known that, notwithstanding wood that is completely submerged remains good for a very great period after the water has dissolved a certain soluble part, it is, when taken out and dried, brittle, and in every respect unfit for use.

15. For the purposes of joinery, steaming and boiling are very good methods; as the loss of elasticity and strength which they produce, and which are so essential in carpentry, is compensated by the tendency to shrinkage being reduced; the durability also is rather

improved than otherwise, at least from steaming. It has been ascertained that of woods seasoned by these methods, those dry sohest which have been steamed; but the drying in either case should be somewhat gradual, and four hours are sufficient for the boiling or steaming process.

(To be continued.)

REPUTED FIGURE OF THE FIRST BISHOP OF FERNS.

TO THE EDITOR OF THE BUILDER.

SIR,—On looking over No. 63, I find you placed in the hands of the engraver my sketch of the first Bishop of Ferns. It may not be out of place to remark there is nothing in the appearance of this curious piece of sculpture to indicate it ever was designed as a figure of St. Edau, who is said to have been consecrated first Bishop of Ferns so far back as 598, beyond a modern inscription cut on a plain marble slab, as follows:—

"Under this Monument are interred the remains of SAINT EDAU, commonly called Saint Monque, the Founder of this Cathedral, and first Bishop of Ferns; he discharged the pastoral office with piety and Christian zeal for the space of fifty years; and died in an advanced age, Jan. 31st, A.D. 632."

Whether this is a figure of the founder of the cathedral or not, it is evidently a work executed with considerable ability, and must, therefore, have been chiselled centuries after the death of St. Edau. It is well known nearly all our ancient sculptural remains are rude efforts, destitute of any pretensions to symmetry or order, whilst the figure in question is chiselled from Kilkenny marble, a stone most difficult to work and manage even by a master-hand.

The appearance of the face of the figure referred to is that of a man not exceeding fifty years of age; contrasting this fact with the concluding part of the inscription, that he (Saint Edau) "discharged the pastoral office . . . for the space of fifty years, and died in an advanced age," I come to the conclusion that this figure was never intended to commemorate Saint Monque. It is now about seventy years since it was found in a vault under the cathedral, through the laudable exertions of the then rector, Dr. Lloyd, who, after it being carefully cleaned, had it placed in its present position in the parish church.

I expect shortly to send a sketch of the monument (with a bust) of the last Bishop of Ferns, Dr. Elrington.

I am, Sir, your obedient servant,

Ferns, 7th July, 1844.

J. K. L.

